

APPENDIX M

WILDLIFE HABITAT ANALYSIS AND DEFINITIONS

Table M-1. Current Acreage of Various Habitat Types in the Project Area Among the Various WAAs.

Habitat Type	WAAs						Total
	Bear-Mattole River	Eel River	Humboldt Bay	Mad River	Van Duzen River	Yager Creek	
LSH	6,840	26,899	21,309	157	6,250	7,019	68,474
Uncut Old Growth	3,268	1,023	3,157	0	137	1,728	9,313
Douglas-fir	3,268	683	0	0	5	216	4,172
Redwood	0	340	3,157	0	132	1,512	5,141
Residual Old Growth	2,093	6,253	2,743	151	1,795	3,875	16,910
Douglas-fir	2,055	2,089	5	151	19	113	4,432
Redwood	38	4,164	2,738	0	1,776	3,762	12,478
Late Seral	1,479	19,623	15,409	6	4,318	1,416	42,251
Mid-seral	18,669	24,191	13,359	3,367	13,796	9,606	82,988
Young Forest	2,360	14,918	8,366	0	3,237	15,543	44,424
Forest Open	1,302	5,478	2,526	0	703	975	10,984
Hardwood	487	740	158	89	62	27	1,563
Prairie	3,820	1,111	0	291	175	290	5,687
Other Non-timber	1,065	2,274	423	0	721	683	5,166
Total	34,543	75,611	46,141	3,904	24,944	34,143	219,286

Source: Foster Wheeler Environmental Corporation, 1998

Appendix Table M-2. Management Requirements for Non-Federal Lands That Provide Protection for Various Wildlife Resources in the Project Area.

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Issue	California Forest Practice Rules (FPR) ^{1/}	PALCO Sustained Yield Plan/Habitat Conservation Plan ^{2/}
LSH (including old-growth and late-seral forest)	<ul style="list-style-type: none"> Mitigation and impacts must be described in THPs, SYPs, and Nonindustrial Timber Management Plans (NTMPs). 	<ul style="list-style-type: none"> Minimum of 10% of ownership within the LSH category during the life of the plan.
Wetland/ riparian habitat	<ul style="list-style-type: none"> See riparian and wetland section. 	<ul style="list-style-type: none"> See riparian and wetland section.
Unique habitats (e.g., snags, cliff, etc.)	<ul style="list-style-type: none"> Snags—All snags retained except: <ul style="list-style-type: none"> Those within 100 feet of ridgetops suitable for fire suppression; Those which pose a hazard and are within 100 feet of public roads, permanent roads, seasonal roads, landings, and railroads; Those that require felling due to safety regulations; Those within 100 feet of structure maintained for human habitation; Merchantable snags as provided in THP; Those removed for insect or disease control; Those proposed for removal by the Registered Professional Forester (RPF) with explanation. Cliffs—Not specifically addressed. Caves—Not specifically addressed. Talus Slopes—Not specifically addressed. 	<ul style="list-style-type: none"> Snags (Interim Objectives): Retain one green tree and one snag, conifer or hardwood in the following size categories per acre (larger snags can be substituted for smaller snags): <ul style="list-style-type: none"> 0.6/acre ≥ 30 inches dbh ≥ 35 feet tall 1.2/acre ≥ 20 inches dbh ≥ 20 feet tall 0.6/acre ≥ 15 inches dbh ≥ 15 feet tall Downed logs (Interim Objectives): Retain two logs per acre outside the Class I and II WLPZs of any decay class ≥ 15 inches in diameter at the large end and ≥ 20 feet long. Monitoring of snags and downed logs will occur as follows: <ul style="list-style-type: none"> - Circular plots 0.01 acre or 0.1 acre in size will be used to monitor the snag and downed log conditions. - Different harvest units will be inventoried separately. - Progress will be measured by averaging green trees, snags, and downed logs per acre on THP units (and the associated riparian management zones). - After five years or sooner, following the next intensive inventory and measuring of these components, PALCO will reconvene with FWS and CDFG to evaluate the habitat components inventory and review other current literature on the subject. Comparison between existing condition and desired goals will be made. If warranted, revisions will be made to this management strategy. Following this initial evaluation, there will be a ten-year reporting interval. Cliffs—Not specifically addressed. Caves—Not specifically addressed. Talus Slopes—Not specifically addressed.
Open habitat	<ul style="list-style-type: none"> 20-acre maximum clearcut for tractor yarding; 30-acre maximum for cable yarding; openings separated by units at least as large as harvest unit or 20 acres, whichever is less, and separated by 300 feet in all directions. 	<ul style="list-style-type: none"> At least 5% of land base classified as forest opening at all times. Prairie soil types will remain as grasslands while timber soil types converted to grasslands will be replanted with conifers.
Grazing	<ul style="list-style-type: none"> Not specifically addressed. 	<ul style="list-style-type: none"> Grazing leases to occur in association with existing ranches.
Herbicide use	<ul style="list-style-type: none"> Not specifically addressed. 	<ul style="list-style-type: none"> Not specifically addressed.
Connectivity of LSH and riparian habitats	<ul style="list-style-type: none"> See LSH management above. 	<ul style="list-style-type: none"> LSH connectivity maintained along riparian corridors (see riparian and wetland section).

Appendix Table M-2. Management Requirements for Non-Federal Lands That Provide Protection for Various Wildlife Resources in the Project Area.

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Issue	California Forest Practice Rules (FPR) ^{1/}	PALCO Sustained Yield Plan/Habitat Conservation Plan ^{2/}
Amphibians/Reptiles	<ul style="list-style-type: none"> • Not specifically addressed 	<ul style="list-style-type: none"> • Impacts minimized and mitigated through protection of riparian habitats, including large woody debris retention, instream habitat improvements, and sediment reduction measures. • Monitoring for the habitat of these species will occur through the aquatics and amphibian/reptile monitoring strategies which are designed to measure key habitat features such as temperature, embeddedness, and large woody debris.
Marbled Murrelet	<ul style="list-style-type: none"> • CDFG is consulted during THP preparation to determine if take would occur. Authorization required under Section 2081 of Fish and Game Guidelines for Consultation if take would occur. 	<ul style="list-style-type: none"> • Currently occupied stands harvested over 15-year period. • Vegetative buffers for suitable habitat on public preserves: <ul style="list-style-type: none"> – 300' buffer from suitable nesting habitat along Humboldt Redwoods State Park / PALCO boundary, and along Highway 36. – Within buffers, only late-seral silvicultural prescription allowed. – No additional buffering required within Marbled Murrelet Conservation Areas (MMCA's). • Seasonal restrictions adjacent to suitable nesting habitat: <ul style="list-style-type: none"> – Seasonal restriction on timber operations (e.g., falling, bucking, yarding, log loading) within 0.25 miles of suitable nesting habitat, from 15 March to 15 September. – No restrictions on use and maintenance of existing roads. – Other exceptions may be approved through consultation with USFWS and CDFG. – No seasonal restrictions required to protect breeding murrelets within MCAs for covered activities outside of MCAs. To the greatest extent feasible, activities with potential for disturbance within MCAs shall be conducted outside of the murrelet breeding season. • Marbled Murrelet Conservation Areas (MMCA's): <ul style="list-style-type: none"> – Management objectives include (1) maintenance of suitable nesting habitat, (2) recruitment of nesting habitat in residual old growth stands, and (3) buffering of suitable and recruitment by young growth stands. – No harvest or salvage of old growth stand components. – Thinning of residual stand components allowable only for enhanced recruitment of second-growth trees into residual overstory. Activities shall occur outside of the nesting season, with no new road construction, and no helicopter yarding. – Thinning of second-growth stands allowable only to accelerate development into mature condition. Activities shall occur outside of the nesting season, with no new road construction, and no helicopter yarding. – Use, maintenance, armoring, and decommissioning of existing roads shall occur to the greatest extent feasible outside the marbled murrelet breeding season.

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Issue	California Forest Practice Rules (FPR) ^{1/}	PALCO Sustained Yield Plan/Habitat Conservation Plan ^{2/}
Northern Spotted Owl	<ul style="list-style-type: none"> Follow one of six procedures identified in FPR which include providing information to be used by Director to evaluate whether or not proposed activity would result in "Take" of an individual northern spotted owl. Maintaining the following conditions identified in FPR may avoid "Take": <ul style="list-style-type: none"> No timber operations within 500 feet of nest or pair activity center during breeding season. Retain roosting habitat within 500 to 1,000 feet of nest or pair activity center. 500 acres of owl habitat retained within 0.7-mile radius of a nest or pair activity center; less than 50% under operations in any one year. 1,336 acres of owl habitat retained within 1.3-mile radius of a nest or pair activity center. Retained areas should conform to natural landscape. 	<ul style="list-style-type: none"> Rock and gravel mining at existing quarry in Allen Creek MMCA allowable. Establishment of two designated borrow pits within each MMCA, with a maximum of four acres of clearing within each MMCA over the life of the permit (includes removal of trees over 12 inches dbh where reasonably necessary). Fuel removal limited to within old growth residual stands and second-growth stands with prior written permission of USFWS and CDFG. Fire suppression in accordance with a fire management plan. Stream enhancement projects with prior written concurrence of the wildlife agencies. Fish releases authorized by NMFS. Hunting allowed during September 16 – March 23 as otherwise authorized by regulation (outside of marbled murrelet nesting season). Operations: <ul style="list-style-type: none"> On active operations (1,000 feet from active falling or yarding), one survey visit between February 15 and March 1 and two visits between March 1 and March 15. On new operations between March 15 and August 31, two visits prior to start of operations but after March 1. Operations to continue while status is being determined. If status is nesting, nest site protection during the breeding season consists of: <ol style="list-style-type: none"> 500 feet for 10 pairs 1,000 feet for all others Activity center protection during the first 5 years of the plan: <ol style="list-style-type: none"> One activity center per pair maintained (e.g., the area surrounding the main roost tree of a non-nesting pair or the nest tree of a nesting pair). All 1997 activity centers maintained unless a new activity center is located within 0.5 mile. All new pair activity centers maintained unless a new activity center located within 0.5 mile. During the breeding season 500 feet or 1,000 feet radius circles maintained around all pairs unless non-nesting status confirmed. Outside breeding season, 18 acres around each pair activity center protected: <ol style="list-style-type: none"> The protected 18 areas to conform to natural landscape features as laid out by PALCO's biologist. The protected activity center must be at least 400 feet wide.

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Issue	California Forest Practice Rules (FPR) ^{1/}	PALCO Sustained Yield Plan/Habitat Conservation Plan ^{2/}
Western snowy plover		<ul style="list-style-type: none"> - Other operations such as planting and burning, lasting less than 3 days exempted. - Road construction, reconstruction, and use exempted. - No road construction in activity centers during the breeding season. - Exceptions to any of above restrictions may be approved after consultation with FWS. - Maintain at least 10% nesting habitat. • Monitoring <ul style="list-style-type: none"> Habitat <ul style="list-style-type: none"> (1) Update annually (2) Reinventory vegetation at least every 15 years Every year sample a randomly selected set of stations to estimate total population. <ul style="list-style-type: none"> (1) Use average of first 5 years to establish total baseline population. (2) If population > 75% of base line pairs, no problem. (3) If population < 75% of base line pairs for three consecutive years, meet with FWS to discuss plans. (4) If population < 67% of base line pairs for three consecutive years, consult and develop no take plan with FWS until it is > 67% for three consecutive years. • Determine status of every contact. • Provide annual report. • Active nests a 1000-foot seasonal buffer will be applied until the end of the breeding season (March 15 – September 15) or until nest failure or completion • Nests will be protected while operations and monitoring continue • Monitoring will occur through bird surveys on gravel bars
Peregrine falcon	<ul style="list-style-type: none"> • Minimum 10-acre buffer zone around active nests; special cutting prescriptions may be required by the Director up to 10 acres in size. • The critical period is February 1 until April 1 for active nests, and is extended until July 15 for occupied nests. During the critical period, no timber operations are permitted within the buffer zone, except for hauling on existing roads that normally receive use during this period within the buffer zone, and where peregrines have shown a tolerance for this activity. • Helicopter yarding is prohibited within one-half mile of the nest. 	<ul style="list-style-type: none"> • For THPs <0.5 mile from potential nest sites, survey to determine nest occupancy. • For active nests, 0.25-mile buffer zone during critical nesting period (Jan. 15 to Aug. 15) for ground-based yarding operations, or 0.5 mile for helicopter yardings. • Current and new nest sites found during the life of the permit will be periodically monitored during the nesting season to determine activity, or if default mitigations are effective. Data reported to USFWS every five years.

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Issue	California Forest Practice Rules (FPR) ^{1/}	PALCO Sustained Yield Plan/Habitat Conservation Plan ^{2/}
Bald eagle	<ul style="list-style-type: none"> • Minimum 10-acre buffer zone around active nests; clear-cutting not allowed within the buffer zone; commercial thinning, salvage, selection, and shelterwood (except removal step) regeneration harvest prescriptions okay; all active nest trees, designated perch trees, screening trees and replacement trees shall be left. • Critical period is January 15 until either August 15 or four weeks after fledgling, as determined by the Director. During this critical period, no timber operations are allowed within the buffer zone. Exceptions for hauling on existing roads can be made by the Director. • Helicopter yarding within one-quarter mile radius of the nest tree is prohibited; gradual approach is allowed within one-quarter and one-half mile radius. 	<ul style="list-style-type: none"> • For wintering bald eagles, when operating in or adjacent to known or potential foraging habitat: <ul style="list-style-type: none"> – Designate and train field personnel (Licensed Timber Operator, Registered Professional Forester, or Wildlife Biologist) to survey for and recognize bald eagles. – Survey known or potential foraging habitat in or adjacent to the THP each morning prior to harvest operations. – If bald eagles are present, no operations within riparian management zone, or adjacent to riparian management zone within 100 feet while eagles are present. – Mark any skyline cables over Class I streams to reduce probability of collisions. • For nesting bald eagles: <ul style="list-style-type: none"> – Annual reconnaissance level surveys conducted to identify watersheds where THP specific surveys are needed. If surveys negative, no THP specific surveys needed. – If surveys detect eagles after 1 March of any year, survey individual THPs within 1 mile of Class I streams to detect any nesting eagles within 0.5 mile of THP boundaries. If bald eagles are not detected on these follow-up surveys, no protective measures warranted. – If bald eagles detected, apply no harvest buffers during breeding season (January 15 to August 15) of 0.25 mile around nest tree for ground-based yarding operations, or 0.5 mile for helicopter operations, or consult with FWS or CDFG to develop site-specific protection measures. – If there are nesting eagles more than 0.25 mile but less than 0.5 mile from THP boundary, a PALCO wildlife biologist will observe the nest for at least one hour during each of the first three days of timber operations to determine if nesting is adversely affected (e.g., agitated movements, frequent calling, adults leaving nest for extended periods of time). – Harvest will be limited in a 500-foot buffer area around active nests post-breeding season (August 15 – October 31) unless nest failure or fledging has occurred; harvest will enhance habitat (e.g., thinning).
Golden eagle	<ul style="list-style-type: none"> • Minimum 8-acre buffer zone around active nests; no clear cutting; retain nest, perching, screening, and replacement trees. • Critical period is January 15 until April 15 for active nests, and extended until either September 15 or until the birds have fledged for occupied nests. Hauling on existing roads that normally receive use during this period is permitted. • Helicopter yarding within one-quarter mile radius of the nest is prohibited. 	<ul style="list-style-type: none"> • When harvest is proposed in potentially suitable nesting habitat, biologist will survey the THP area for evidence of nesting. The THP area and a 0.25-mile buffer will be surveyed for ground-based operations, or a 0.5 mile buffer for helicopter operations. Ground-based surveys shall consist of three survey visits between January 15 and March 1. • Seasonal no-harvest buffers around nests will be maintained during the breeding season (January 15 to August 15, or post fledging); the default buffers will be a 0.25-mile radius from nest for ground

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Issue	California Forest Practice Rules (FPR) ^{1/}	PALCO Sustained Yield Plan/Habitat Conservation Plan ^{2/}
Northern Goshawk	<ul style="list-style-type: none"> • Minimum 5-acre buffer zone around active nests; Director can increase to maximum of 20 acres; retain nest, perching, screening, and replacement trees; commercial thinning, salvage, and selection regeneration harvest prescriptions okay. • Critical period is from March 15 until August 15. New road construction is permitted if there is no feasible alternative; hauling on existing roads can be allowed if they normally receive use during this period. • Helicopter yarding within one-quarter mile radius of the nest is prohibited 	<p>operations and 0.5-mile radius for helicopter operations.</p> <ul style="list-style-type: none"> • If nesting eagles are more than 0.25 mile but less than 0.5 mile from the THP boundaries, a PALCO wildlife biologist will observe the nest for at least one hour during each of the first three days of timber operations to determine if operations are adversely affecting nesting. Indications of disturbance include agitated movements, frequent calling, adults taking flight, or nestlings left unprotected for extended periods of time (>10 minutes). • A 500-foot radius limited-harvest buffer shall be implemented post breeding season. Harvest shall be limited to between August 15 and October 31, unless it can be shown that the nest has failed or young have fledged. Harvest within the 500-foot radius will be limited to prescriptions that enhance habitat (e.g., thinning).
Osprey	<ul style="list-style-type: none"> • Minimum 5-acre buffer zone around active nests; Director can increase to maximum of 18 acres; retain nest, perching, screening, and replacement trees; artificial nest structure okay. • Critical period is March 15 until May 1 for active nests, and is extended from May 1 to August 15 for occupied nests. During this period, at nest sites where osprey have shown tolerance to disturbance, timber operations are permitted using a gradual approach to the nest, but no cutting is permitted. • Helicopter yarding within one-quarter mile radius of the nest is prohibited between April 15 and June 15. 	<ul style="list-style-type: none"> • Maintain habitat diversity, snags, hardwoods, downed logs and LWD recruitment. • All THPs surveyed in first five years • 1,000-foot radius buffer around active nest sites. • 10 percent late-seral retention.
Great blue heron, black-crowned night heron, snowy egret and great egret	<ul style="list-style-type: none"> • Minimum 300-foot radius around trees with five or more active nests in close proximity; retain all nest trees. • Critical period is from March 15 through July 15. During this period, timber operations within the buffer zone shall be staged with a gradual approach to the nest. 	<ul style="list-style-type: none"> • Active nest sites protected with buffers up to 18 acres in size. • All designated nest, perch, and screening trees protected. • RMZs and snag retention will contribute.
Black-shouldered kite and Cooper's hawk	<ul style="list-style-type: none"> • Minimum 200-foot no cut buffer will be maintained around nest tree during active nesting season, or until young have fledged. 	<ul style="list-style-type: none"> • Seasonal 300-foot buffer around nest trees during critical period (see FPR). • Nest and screening trees shall be left. • For Cooper's Hawk, 500-foot operational restriction buffer during active nesting season; survey 10 % of THPs.

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Issue	California Forest Practice Rules (FPR) ^{1/}	PALCO Sustained Yield Plan/Habitat Conservation Plan ^{2/}
Burrowing owl		<ul style="list-style-type: none"> • For kite, 200-foot no-cut buffer during the nesting season. • Where roads are to be constructed through prairies, conduct surveys during both wintering and nesting seasons, unless the species is detected on the first seasonal survey. The winter survey should be conducted between December 1 and January 31. Nesting season surveys should be conducted between April 15 and July 15. Surveys should be conducted from two hours before sunset to one hour after, or from one hour before to two hours after sunrise. Surveys should cover all suitable habitat within 50 meters of road alignment. • If surveys negative, no further measures are needed. • If surveys positive, design and construct road to avoid nest burrows. • If surveys negative but burrowing owls are detected during road construction, operations closer than 50 meters to the nest burrow shall be avoided until any nestlings are fledged or until August 31, whichever happens first. Nest burrow may then be taken if avoidance is not feasible.
Vaux's swift, pileated woodpecker, and purple martin		<ul style="list-style-type: none"> • Maintenance of habitat diversity over time (including late seral), snag retention and recruitment, hardwood retention, large woody debris recruitment, and riparian protection will all be mitigation for this species. • Monitoring will occur during marbled murrelet surveys and during snag retention monitoring.
Bank swallow		<ul style="list-style-type: none"> • Attempt to prevent repeated attempts to nest in sand piles using netting or other means developed in consultation with FWS or CDFG. • Nesting colonies along watercourses avoided during May and June. Establish a 200-foot buffer around active colonies during the nesting season, or develop alternative mitigation measures.
California red tree vole, Humboldt marten, and Pacific fisher		<ul style="list-style-type: none"> • Likely that aquatics conservation strategy, in combination with spotted owl conservation strategy, and snag retention and recruitment strategy will produce a mosaic of habitat suitable for maintaining populations. • Monitoring to occur through inventory of forest seral types, snags and downed logs, and riparian buffers.

^{1/} PALCO currently follows FPR and a Spotted Owl Management Plan (SOMP). Under PALCO's SOMP, no harvest is allowed within 500 feet of nest sites, roosting habitat is to be retained within 1,000 feet of a nest or activity center, and no harvest is allowed within 1,000 feet of an active nest during breeding season.

^{2/} See PALCO's HCP, Part 3, Section B, for the Marbled Murrelet Conservations and Strategy and Part 2, Section C, for the Northern Spotted Owl Conservation Strategy in their entirety. Only key provisions are described here.

SOURCE: California FPR and PALCO, 1998.

Appendix Table M-3. Current (Year 0) and Projected Acreage of LSH and Interior LSH Among Various Patch Size Classes in the Project Area Under the Proposed Alternatives

Habitat	Patch Size Class (Acres)	Current	Alternative 1		Alternative 2		Alternative 2a		Alternative 3		Alternative 4	
		Year 0	Year 10	Year 50	Year 10	Year 50	Year 10	Year 50	Year 10	Year 50	Year 10	Year 50
LSH	0 - 19	3,216	3,356	5,176	3,581	4,631	3,659	4,656	3,317	3,226	3,670	4,226
	20 - 79	6,344	4,399	6,604	5,323	5,570	5,231	5,524	6,143	4,873	5,411	6,509
	80 - 1000	23,108	19,355	19,184	18,127	10,427	18,458	10,715	26,753	16,787	18,120	11,851
	> 1000	35,806	19,426	7,032	16,777	8,816	16,187	8,570	35,099	72,933	26,344	32,450
Total LSH	Acres	68,474	46,537	37,996	43,808	29,444	43,535	29,465	71,312	97,819	53,545	55,036
Interior LSH	0 - 19	1,272	891	172	780	240	811	263	1,190	1,551	924	704
	20 - 79	2,936	1,423	373	1,244	338	1,330	338	2,442	3,094	1,916	1,215
	80 - 1000	9,522	3,320	1,511	3,867	2,240	3,616	2,238	8,546	16,935	5,734	4,516
	> 1000	6,281	5,219	2,559	5,169	3,488	5,457	2,568	6,653	9,573	6,726	12,912
Total Interior LSH	Acres	20,011	10,853	4,615	11,060	6,306	11,214	5,407	18,831	31,153	15,300	19,347

Source: Foster Wheeler Environmental Corporation, 1998

Appendix Table M-4. Classification and Definitions of Spotted Owl Habitat

Spotted Owl Habitat Type	WHR Codes ^{1/}	Definition ^{1/}
High-Quality Nesting Habitat	DFR5_D, DFR5_M, DFR5AD, DFR5AM, DFR6_D, MHC5_D, MHC5AD, MHC5BD, MHC6_D, MHW5_D, MHW6_D, RDW4AD, RDW4BD, RDW4CD, RDW5_D, RDW5_M, RDW5AD, RDW5AM, RDW5BD, RDW5BM, RDW6_D, DFR5BD, DFR5BM, MHW5AM, MHW5AP, MHW5AS	Douglas-fir, montane hardwood-conifer, and montane hardwood forest types with $\geq 24''$ dbh and $\geq 40\%$ tree canopy closure; redwood type with $\geq 11''$ dbh and $\geq 40\%$ tree canopy closure
Mid-Quality Nesting Habitat	MHC5_M, MHC5AM, MHC5BM, MHW5_M, RDW4AM, RDW4CM	Montane hardwood-conifer and montane hardwood types with $\geq 24''$ dbh (but not multi-layered) and moderate tree canopy closure (40 – 60%); redwood type 11-24'' dbh and moderate canopy closure (40 – 60%)
Low-Quality Nesting Habitat	Too many codes to list here. See Table I-3 for WHR codes that create this item.	Douglas-fir, redwood, montane hardwood, and montane hardwood-conifer between 11-24'' dbh with canopy closure $<40\%$
Roosting Habitat	DFR3_D, DFR3_M, DFR3_P, DFR3_S, MHC2_D, MHC3_D, MHC3_M, MHC4AP, MHC4BP, MHC4CP, MHW2_D, MHW2_M, MHW3_D, MHW3_M, MHW4AP, MHW4AS, MHW4BP, MHW4BS, MHW4CP, MHW4CM	Douglas-fir type between 6-11'' dbh with any canopy closure; montane hardwood-conifer between 1-6'' dbh with dense canopy closure, and between 6-11'' dbh with moderate to dense canopy closure, and between 11-24'' dbh with open cover; montane hardwood between 1-11'' dbh with moderate to dense canopy closure, and between 11-24'' dbh with sparse or open cover
Foraging Habitat	DFR2_D, DFR2_M, RDW2_D, RDW2_M, RDW2_P, RDW2_S, RDWS_P, RDW3_S,	Douglas-fir type between 1-6'' dbh with canopy closure $\geq 40\%$; redwood type between 1-6'' dbh with any canopy closure, and between 6-11'' dbh with canopy closure $<40\%$
Non-habitat	All other WHR codes	Most habitat types in seedling stage.

1/ See Appendix Table L-1 (adapted from PALCO's HCP/SYP) for a crosswalk and definitions of WHR vegetation codes.

Source: Foster Wheeler Environmental Corporation, 1998

Appendix Table M-5. Current (Year 0) and Projected Acres of Northern Spotted Owl Habitat in the Project Area Under the Proposed Alternatives ^{1/}

Habitat Type	Year 0	Alternative 1		Alternative 2		Alternative 2b		Alternative 3		Alternative 4	
		Year 10	Year 50	Year 10	Year 50	Year 10	Year 50	Year 10	Year 50	Year 10	Year 50
High Quality Nesting Habitat	80,717	71,432	79,664	64,160	58,647	63,887	58,490	88,368	140,707	75,019	92,799
Mid-Quality Nesting Habitat	12,390	11,660	1,623	14,747	1,955	14,773	2,068	11,959	1,556	12,043	1,263
Total Suitable Nesting Habitat	93,107	83,092	81,287	78,907	60,602	78,660	60,558	100,327	142,263	87,062	94,062
Low Quality Nesting Habitat	70,694	59,284	78,215	57,501	105,214	57,434	103,355	63,059	65,729	58,527	83,068
Roosting Habitat	10,144	26,985	8,432	26,720	11,074	26,733	13,593	28,203	10	26,323	12,786
Foraging Habitat	23,488	14,290	11,382	14,730	9,337	14,730	3,943	13,888	0	13,956	7,053
Non-habitat	21,869	35,552	39,887	41,347	32,978	41,648	37,757	13,728	11,204	33,336	22,236
Total Unsuitable Nesting Habitat	126,195	136,111	137,916	140,298	158,603	140,545	158,648	118,878	76,943	132,142	125,143
Total Acres	219,302	219,203	219,203	219,205	219,205	219,205	219,206	219,205	219,206	219,204	219,205

1/ Suitable nesting habitat was restricted to mid- and high-quality nesting (see text for more details).

Source: Foster Wheeler Environmental Corporation, 1998